
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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ZINC IN JULY 1997

Domestic mine production in July, expressed in zinc content of concentrate, increased by 1% over the previous month's production, but was more than 15% lower than in July 1996. Smelter production was nearly 3% higher than in June, and more than 5% higher than a year ago. Apparent consumption in July increased by about 2% over the previous month's consumption, and by nearly 24% over that of July 1996.

The *Platt's Metals Week* composite price for North American Special High Grade (SHG) zinc for July increased by nearly 11% over the previous month's price, and by 47% over that of July 1996. While the world's refined zinc production increased more than consumption during the first half of 1997, the consumption was still about 100,000 tons higher than production. This imbalance was reflected not only in higher LME prices, but also in increasing premiums charged by U.S. merchants for SHG zinc. The premium increased from about 5 cents per pound of zinc at the beginning of this year to around 6 cents per pound in July, despite a seasonal summer slowdown in consumption. Since the beginning of this year, the monthly average composite price for SHG zinc had increased by about 33% through July.

Cominco Alaska Inc. and the U.S. Environmental Protection Agency announced a settlement over environmental problems related to technical start-up problems and procedural issues at the Red Dog Mine. Under the terms of the settlement, Cominco must pay a fine of \$1.7 million and install groundwater and permafrost monitoring equipment, erect a fish protection barrier, and prepare an aquatic life study (Mining Journal, 1997a).

At the end of 1996, three lead-zinc enterprises in Kazakstan decided to form a joint venture named AO (Aktzionernoye Obshchestvo) Kaztsink. The share structure of Kaztsink is reported to be as follows: Leninogorsk base metals mining and smelting enterprise, 30.2%, Ziryanyovsk mining enterprise, 27.5%, Ust-Kamenogorsk base metal smelter, 27.3%, and the State of Kazakstan, 15%. The theoretical annual production

capacity of AO Kaztsink is reported to be 265,000 tons of zinc, 210,000 tons of lead, and 40,000 tons of blister copper. Capacity utilization for zinc and lead in 1996 was 63% and 29%, respectively. Only about 45% of feed was supplied by the Leninogorsk and Ziryanyovsk mines (CRU International Ltd., 1997).

Undaunted by recent setbacks, the state-owned Empresa Minera del Centro del Peru S.A. (Centromin) continued its privatization effort with the sale of the Mahr Tunel complex, which consists of the San Cristobál and Andaychagua polymetallic mines and concentrators. It was bought by Volcán Minera of Peru for \$127.8 million plus an investment commitment of \$60 million over five years. Employees will be able to exercise their right to purchase 10% of equity before the transfer date of September 30, 1997. Both mines are located close to each other in the central Peruvian highlands. In 1996, San Cristobál produced 680,000 tons of ore containing zinc, lead, copper, and silver, and Andaychagua produced 395,000 tons of ore containing silver, lead, and zinc (Metal Bulletin, 1997c).

Following the surprise withdrawal of Mexico's Gupo Industrias Peñoles from its \$192.6 million bid to buy 60% of Peru's La Oroya metallurgical complex, the Doe Run Co., as the second largest bidder, has expressed its intention to take over the operation. The La Oroya smelter/refinery, owned by Centromin, produces a range of 22 metals, the most important of which are lead (94,923 tons), zinc (69,567 tons in 1996), copper (65,759 tons), silver (653 tons), gold (1,629 kilograms), and bismuth (939 tons) (Mining Journal, 1997b).

In Australia, Pasmaenco's production of zinc concentrate in fiscal year (FY) 1996 (ending June 30, 1997) rose to almost 317,000 tons of zinc in concentrate, up from 300,000 tons in FY 1995. All its production came from four mines—Beltana (4,000 tons), Broken Hill (195,000 tons), Elura (62,000 tons), and Roseberry (56,000 tons). However, smelter production declined from 536,000 tons to 524,000 tons in FY 1996. Output of the

Cockle Creek smelter was down as a result of operating problems with the furnace and casting equipment, while the Port Pirie smelter was closed for maintenance (Metal Bulletin, 1997b).

Canadian miner Breakwater Resources reportedly has acquired all of the assets of Ste. Minière de Bougrine in Tunisia for \$19.3 million. The mine contains 4 million tons of reserves averaging 10.8% zinc and 2.2% lead. The mine life is estimated at 7 years with a planned annual production of 400,000 tons of ore; production is expected to commence in early 1998. Before closing in 1996, the mill processed 693,000 tons of ore averaging 13.7% of zinc and 2.5% of lead. The average zinc and lead recovery was 83.7% and 72.6%, respectively (Metal Bulletin, 1996a).

References Cited

- CRU International Ltd., 1997, Kaztsink structure agreed: CIS Metals Review, second quarter, p. 2.
- Metal Bulletin, 1997a, Breakwater in mine acquisition: Metal Bulletin, no. 8198, July 24, p. 9.
- 1997b, Pasmenco's mine output up, smelter output down: Metal Bulletin, no. 8199, July 28, p. 6.
- 1997c, Volcán wins bid for Centromin's Mahr Tunnel: Metal Bulletin, no. 8198, July 24, p. 7.
- Mining Journal, 1997a, Cominco settlement: Mining Journal, v. 329, no. 8438, July 18, p. 46.
- 1997b, Peñoles wins La Oroya: Mining Journal, v. 328, no. 8426, April 25, p. 319.

TABLE 1
SALIENT ZINC STATISTICS 1/

(Metric tons)

	1996			1997			
	July	Jan.-July	Jan.-Dec.	May	June	July	Jan.-July
Production:							
Mine, zinc content of concentrate	55,600	367,000	628,000 r/	52,000	46,700 r/	47,200	340,000
Mine, recoverable zinc	53,800 r/	351,000 r/	600,000 r/	49,300 r/	44,600 r/	45,100	325,000
Smelter, refined zinc	30,800	213,000	366,000	33,300	31,600	32,500	223,000
Oxide (gross weight)	11,500 r/	91,000 r/	156,000	14,100	14,500	14,500	95,300
Consumption:							
Refined zinc, reported	49,400 r/	388,000 r/	788,000 r/	48,800 r/	46,100 r/	44,500	326,000
Ores e/ (zinc content)	150 r/	1,050 r/	1,800	150	150	150	1,050
Zinc-base scrap e/ (zinc content)	8,300 r/	58,100 r/	100,000	8,300	8,300	8,300	58,100
Copper-base scrap e/ (zinc content)	14,000 r/	98,000 r/	170,000	14,000	14,000	14,000	98,000
Aluminum- and magnesium-base scrap e/ (zinc content)	67 r/	469 r/	800	67	67	67	469
Total e/	71,900 r/	546,000 r/	1,060,000 r/	71,400 r/	68,600 r/	67,000	483,000
Apparent consumption, metal 2/	87,300 r/	668,000 r/	1,210,000	94,900 r/	106,000 r/	108,000	781,000
Stocks of refined (slab) zinc, end of period:							
Producer 3/	8,830 r/	XX	XX	12,100	10,500	11,100	XX
Consumer 4/	64,000 r/	XX	XX	54,900 r/	56,100 r/	53,600	XX
Merchant	1,930	XX	XX	5,110	5,220	5,710	XX
Total	74,800 r/	XX	XX	72,100 r/	71,900 r/	70,400	XX
Shipments of zinc metal from Government stockpile	1,870	5,770	16,500	7,600	1,850	50	35,400
Imports for consumption:							
Refined (slab) zinc	59,200	447,000	827,000	54,400	72,400	NA	448,000 5/
Oxide (gross weight)	4,470	33,800	56,300	6,050	4,580	NA	31,800 5/
Ore and concentrate (zinc content)	--	1,500	15,100	2,940	--	NA	18,100 5/
Exports:							
Refined (slab) zinc	167	1,090	1,970	115	247	NA	1,480 5/
Oxide (gross weight)	480	3,640	5,770	346	488	NA	2,570 5/
Ore and concentrate (zinc content)	100,000	127,000	425,000	1,850	37,800	NA	80,600 5/
Waste and scrap (gross weight)	2,660	29,600	45,500	5,320	4,890	NA	26,700 5/
Price:							
London Metal Exchange, average, per metric ton	\$1,000.39	\$1,130.17	\$1,025.03	\$1,310.51	\$1,354.18	\$1,517.96	\$1,277.68
Platt's Metals Week North American Special High Grade, average, ¢ per pound	49.87	50.44	51.11	64.94	66.12	73.25	63.34

e/ Estimated. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices; may not add to totals shown.

2/ Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

3/ Data from U.S. Geological Survey and American Bureau of Metal Statistics.

4/ Includes an estimate for companies that report annually.

5/ Includes data through June only.

TABLE 2
REFINED ZINC PRODUCED IN THE UNITED STATES 1/

(Metric tons)

Month	Beginning stocks 2/	Production	Shipments	Ending stocks 2/
1996:				
Jan.-July	XX	213,000	212,000	XX
July	8,180	30,800	30,400	8,650
August	8,650	27,400	27,500	8,570
September	8,570	30,800	29,900	9,480
October	9,480	32,300	31,600	10,100
November	10,100	32,000	30,300	11,800
December	11,800	31,200	32,300	10,800
Total	XX	366,000	363,000	XX
1997:				
January	10,800	32,700	32,200	11,300
February	11,300	29,300	29,800	10,800
March	10,800	31,300	30,400	11,600
April	11,600	31,900	31,400	12,100
May	12,100	33,300	33,300	12,100
June	12,100	31,600	33,200	10,500
July	10,500	32,500	31,900	11,100
Jan.-July	XX	223,000	222,000	XX

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes stocks held at locations other than smelters.

Sources: U.S. Geological Survey and American Bureau of Metal Statistics.

TABLE 3
ZINC OXIDE PRODUCED 1/ IN THE UNITED STATES 2/

(Metric tons, gross weight)

Month	Beginning stocks	Production	Shipments	Ending stocks
1996:				
Jan.-July	XX	91,000	91,400	XX
July	3,740	11,500	12,000	3,280
August	3,280	12,300	12,600	3,000
September	3,000	12,500	12,200	3,260
October	3,260	13,500	13,500	3,200
November	3,200	13,500	13,500	3,180
December	3,180	13,800	13,500	3,480
Total	XX	156,000	160,000	XX
1997:				
January	3,480	13,000	13,300	3,190
February	3,190	12,200	12,000	3,380
March	3,380	13,400	12,700	4,120
April	4,120	13,600	13,600	4,040
May	4,040	14,100	14,200	3,920
June	3,920	14,500	13,800	4,700
July	4,700	14,500	14,500	4,750
Jan.-July	XX	95,300	94,100	XX

XX Not applicable.

1/ Excludes impure zinc oxide produced from other processes.

2/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 4
ESTIMATED DISTRIBUTION 1/ OF ZINC OXIDE SHIPMENTS BY INDUSTRY 2/ 3/

(Metric tons, gross weight)

Industry	1996			1997			
	July r/	Jan.-July r/	Jan.-Dec.	May	June	July	Jan.-July
Agriculture	W	W	W	W	W	W	W
Ceramics	496	3,820	6,180	504	529	574	3,310
Chemicals	2,480	19,400	32,700	3,230	2,910	3,330	20,200
Paints	476	4,140	6,790	599	652	802	4,270
Photocopying	W	W	W	W	W	W	W
Rubber	8,070	63,500	108,000	9,320	9,100	9,210	62,500
Other	437	3,840	6,260	562	561	562	3,730
Total	12,000	94,700	160,000	14,200	13,800	14,500	94,100

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Distribution of U.S. producers only. Imports excluded because distribution by industry cannot be distinguished.

2/ May include in-house consumption.

3/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 5
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO INDUSTRY USE AND PRODUCT 1/

(Metric tons)

Industry and product	1996			1997			
	July r/	Jan.-July r/	Jan.-Dec.	May r/	June r/	July	Jan.-July
Galvanizing:							
Sheet and strip	37,500	272,000	494,000	38,000	42,200	43,500	323,000
Other	11,500	84,900	160,000	12,300	14,800	15,300	112,000
Total	49,000	357,000	654,000	50,400	57,000	58,800	435,000
Brass and bronze	11,500	85,100	155,000	12,100	14,100	13,700	105,000
Zinc-base alloy	14,000	117,000	229,000	17,500	19,200	19,800	140,000
Other uses 2/	13,000	109,000	173,000 r/	14,800	15,600	15,500	101,000
Total	87,300	668,000	1,210,000	94,900	106,000	108,000	781,000

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes zinc used in making zinc dust, wet batteries, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, zinc oxide, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 6
AVERAGE MONTHLY ZINC PRICES

Month	North American Special High Grade, ¢/lb.	LME cash	
		¢/lb.	\$/mt
1996:			
July	49.87	45.36	1,000.39
August	51.26	45.67	1,007.24
September	51.39	45.37	1,000.64
October	51.52	45.50	1,003.46
November	53.31	47.47	1,046.83
December	52.77	47.00	1,036.26
Year average	51.11	46.50	1,025.03
1997:			
January	55.17	49.28	1,086.52
February	59.26	53.50	1,179.38
March	62.69	56.92	1,254.80
April	61.97	56.26	1,240.40
May	64.94	59.44	1,310.51
June	66.12	61.42	1,354.18
July	73.25	68.85	1,517.96

Source: Platt's Metals Week.

TABLE 7
U.S. EXPORTS OF ZINC 1/

Material	1996		1997			
			June		Year to date 2/	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	1,967	\$2,353	247	\$363	1,480	\$1,950
Ore and concentrate (zinc content)	424,883	189,821	37,800	17,800	80,600	34,400
Waste and scrap (gross weight)	45,450	30,312	4,890	3,160	26,700	17,900
Powders , flakes, and dust (zinc content)	11,060	21,447	732	1,340	4,490	8,470
Oxide (gross weight)	5,773	9,425	488	585	2,570	4,710
Chloride (gross weight)	1,472	1,231	47	68	1,380	964
Sulfate (gross weight)	5,231	2,970	278	117	3,030	1,640
Compounds, other (gross weight)	1,247	4,665	5	18	123	438

1/ Data are rounded to three significant digits.

2/ Data for the current month were not available at time of publication.

Source: Bureau of the Census.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF ZINC 1/

Material	1996		1997			
			June		Year to date 2/	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	827,000	\$882,000	72,400	\$97,100	448,000	\$539,000
Ore and concentrate (zinc content)	15,100	6,380	--	--	18,100	8,680
Waste and scrap (gross weight)	31,900	12,800	2,860	1,190	15,200	6,220
Powders , flakes, and dust (zinc content)	10,300	17,600	812	1,560	4,700	8,830
Oxide (gross weight)	56,300	57,500	4,580	5,640	31,800	34,900
Chloride (gross weight)	2,420	2,140	99	86	1,150	733
Sulfate (gross weight)	4,050	2,840	389	206	2,810	1,590
Compounds, other (gross weight)	1,190	1,280	172	260	782	960

1/ Data are rounded to three significant digits.

2/ Data for the current month were not available at time of publication.

Source: Bureau of the Census.

TABLE 9
SHIPMENTS OF ZINC METAL FROM THE NATIONAL DEFENSE
STOCKPILE 1/

(Metric tons)

Month	Beginning inventory	Shipments	Ending inventory
1996:			
July	270,000	1,870	268,000
August	268,000	1,460	266,000
September	266,000	2,550	264,000
October	264,000	1,630	262,000
November	262,000	2,810	259,000
December	259,000	2,110	257,000
Total	XX	16,500	XX
1997:			
January	257,000	3,020	254,000
February	254,000	4,400	250,000
March	250,000	5,080	245,000
April	245,000	13,400	231,000
May	231,000	7,600	224,000
June	224,000	1,850	222,000
July	222,000	50	222,000
Year to date	XX	35,400	XX

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Defense Logistics Agency.

TABLE 10
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY 1/

(Metric tons)

Material and country	General imports			Imports for consumption		
	1997 2/			1997 2/		
	1996	June	Year to date	1996	June	Year to date
Ore and concentrate (zinc content):						
Australia	--	--	9,930	--	--	9,930
Mexico	7,000	--	5,300	6,970	--	5,300
Peru	10,000	232	3,420	8,080	--	2,920
Other	322	--	150	91	--	--
Total	17,300	232	18,800	15,100	--	18,100
Blocks, pigs, or slab:						
Brazil	32,000	4,580	14,900	32,000	4,580	14,900
Canada	503,000	32,300	233,000	503,000	32,300	233,000
Finland	18,300	--	11,000	18,300	--	11,000
Mexico	93,900	6,080	31,900	93,900	6,080	31,900
Peru	23,800	617	7,870	23,800	617	7,870
Russia	24,100	2,790	12,600	24,100	2,790	12,600
Spain	83,200	4,670	61,800	91,400	4,670	71,900
Sweden	--	--	12,500	--	--	--
Other	40,500	21,400	64,200	40,900	21,400	64,200
Total	819,000	72,400	450,000	827,000	72,400	448,000
Dross, ashes, & fume (content)	15,800	1,540	7,970	15,800	1,540	7,970
Grand total	852,000	74,200	477,000	858,000	74,000	474,000
Oxide (gross weight):						
Canada	28,600	2,540	16,400	28,600	2,540	16,400
China	2,070	248	2,050	2,070	248	2,050
Mexico	21,400	974	10,200	21,400	974	10,200
Other	4,420	819	3,230	4,310	819	3,230
Total	56,400	4,580	31,800	56,300	4,580	31,800
Other (gross weight):						
Waste and scrap	31,900	2,860	15,200	31,900	2,860	15,200
Sheets	16,900	2,280	13,700	16,900	2,280	13,700
Dust, powder, flakes	10,300	812	4,700	10,300	812	4,700

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data for the current month were not available at time of publication.

Source: Bureau of the Census.